



CALSTEST NETWORK

# AFCTN Test Report 93-070

AFCTB-ID  
93-044



## Technical Publication Transfer

Using:



Magnavox Electronic's Data

MIL-M-28001A (SGML)

MIL-D-28003 (CGM)



Quick Short Test Report



07 May 1993



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DTIC QUALITY INSPECTED 3



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**7 May 1993**

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## 1. Introduction

### 1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALs) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALs standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, increase the base of participation in the CALs initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

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## 1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Magnavox Electronic Company's interpretation and use of the CALS standards, in transferring technical publications data. Magnavox used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

Magnavox indicated that the text file is an ASCII file with no tags. They indicated that the customer does not have a SGML capability and requested the text in this format. The text file was not evaluated.

## 2. Test Parameters

Test Plan: AFCTB 93-044

Date of  
Evaluation: 7 May 1993

Evaluator: George Elwood  
Air Force CALS Test Bed  
DET 2 HQ ESC/ENCP  
4027 Colonel Glenn Hwy  
Suite 300  
Dayton OH 45431-1672

Data  
Originator: Judy Gilbert  
Magnavox Electronic Company  
1313 Production Road  
Fort Wayne IN 46808  
(219) 429-6000

Data  
Description: Technical Manual Test  
1 Document Declaration file  
1 Text file  
42 Computer Graphics Metafile (CGM) files

Data  
Source System: 1840

### **HARDWARE**

Digital Equipment Corporation  
VAX 6220/VMS v5.5-2

### **SOFTWARE**

AFCTN Tapetool v1.2, R 8

Text/Standard Generalized Markup Language (SGML)

### **HARDWARE**

Digital Equipment Corporation  
VAX 6220/VMS v5.5-2

### **SOFTWARE**

Microsystems Corporation Mass-11 WP, v8.3

---

CGM

HARDWARE

IBM AIX RISC/System 6000  
Digital Equipment Corporation  
VAX 6220/VMS v5.5-2

SOFTWARE

CADAM Inc. Pro Cadam, v3, R 3.0  
Microsystems Engineering Corporation  
MASS-11 Graphics Processor, v6.02

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.9 UNIX  
Texas Instruments (TI) Tapetool v1.0.1

MIL-D-28003 (CGM)

SUN SparcStation 2

ArborText cgm2draw  
Island Graphics IslandDraw v3.0  
Carberry CADLeaf v3.1

PC 486/50

Advance Technology Center  
(ATC) MetaView R 1.12  
ATC MetaCheck R 2.05  
Software Publishing Corporation  
(SPC) Harvard Graphics v3.05  
Inset Systems HiJaak v1.0 Windows  
Micrografx Designer v3.1  
Corel Ventura Publisher

Standards

Tested:

MIL-STD-1840A

MIL-D-28003

### 3. 1840A Analysis

#### 3.1 External Packaging

The tape was hand delivered to the Air Force CALS Test Bed (AFCTB) without a box.

The tape was not enclosed in a barrier bag or barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed a lack of the labeling indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require the BPI to be set manually. Not attached to the tape was a packing list showing all files that were recorded on the tape. The purpose of this test was to evaluate the CGM files and not the packaging or labeling.

#### 3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

##### 3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.9 utility. One error was reported while evaluating the contents of the tape labels. This error relates to the use of carriage control characters in the ASCII file. This would be normal for files created on a PC and transferred to a tape.

\*\*\* WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.

The tape was also read using TI's *Tapetool* v1.0.1 with the same reported error as above.

---

### 3.2.2 Declaration and Header Fields

No errors were reported in the Document Declaration file or data file headers.

## 4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on the tape.

## 5. SGML Analysis

The SGML file was not evaluated per the customers instructions.

## 6. Raster Analysis

No Raster files were included on the tape.

## 7. CGM Analysis

The tape contained 42 CGM files. All of the files were evaluated using ATC's *MetaCheck* with CALS options. This utility reported that all of the files did not meet the CALS MIL-D-28003 specification because of the required CALS statement in the CGM file. File D001C024 was reported as not meeting basic CGM standards with illegal entities being reported. The log file is included in the Appendix to this report.

The files were evaluated using the beta AFCTN *validcgm* utility. This program reported the missing CALS header information.

The AFCTB has several tools for viewing CGM files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many

---

of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

All files were viewed on screen, but only files D001C024 and D001C034 were selected for the hard copy output.

An attempt to view the files using ATC's *MetaView* resulted in nothing being displayed on the screen because of the black background and black graphics.

File D001C024 was reported in error when imported into Carberry's *Cadleaf* software. The error was the use of an illegal entity. The file still displayed on screen but a set of lines were displayed which were not correct.

The *Micrografx Designer* and *Charisma* both imported a selection of files without a reported error. File D001C024 displayed the added lines defined above.

SPC's *Harvard Graphics 3.05* imported a selection of files without a reported error. File D001C024 displayed the added lines.

Inset Systems' *HiJaak for Windows* imported all 42 files without a reported error. The same error in file D001C024 was again noted.

A selection of files were converted using ArborText's *cgm2draw* utility without a reported error. The resulting files were read into Island Graphics' *IslandDraw*, displayed and printed. File D001C024 displayed the same error as noted above.

A selection of files were directly imported into Island Graphics' *IslandDraw* without a reported error. The images displayed correctly except for D001C024, which displayed with the error noted above.

The two selected files were imported into Corel's *Ventura Publisher* without a reported error. File D001C024 displayed with the same error noted above.

The CGM files do not meet the CALS MIL-D-28003 specification because of the missing CALS header.

---

## 8. Conclusions and Recommendations

In summary, the tape from Magnavox Electronic Company was correct. Only one error was generated and is not consider critical. The basic tape structure meets the CALS MIL-STD-1840A requirements.

The Text file on the tape was not evaluated per Magnavox Electronic Company's request.

All 42 CGM files on the tape did not meet the CALS MIL-D-28003 specification because of the missing header data. Further, file D001C024 had a critical basic CGM error.

The tape from Magnavox Electronic Company does not meet the CALS MIL-STD-1840A requirements.

## 9. Appendix A - Tapetool Report Logs

### 9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 9 (U)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu May 6 14:56:03 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool9/Set001

Page: 1

| File Name | File Type            | Record<br>Format/<br>Length | Block<br>Length/Total | Selected/<br>Extracted |
|-----------|----------------------|-----------------------------|-----------------------|------------------------|
| D001      | Document Declaration | D/00260                     | 02048/000001          | Extracted              |
| D001C001  | CGM                  | F/00080                     | 00800/000039          | Extracted              |
| D001C002  | CGM                  | F/00080                     | 00800/000035          | Extracted              |
| D001C003  | CGM                  | F/00080                     | 00800/000050          | Extracted              |

<<<< PART OF LOG FILE REMOVED HERE >>>>

|          |      |         |              |           |
|----------|------|---------|--------------|-----------|
| D001C041 | CGM  | F/00080 | 00800/000064 | Extracted |
| D001C042 | CGM  | F/00080 | 00800/000049 | Extracted |
| D001T043 | Text | D/00260 | 02048/000128 | Extracted |

Catalog Process terminated normally.

---

## 9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 9 (0)

Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes  
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu May 6 14:54:52 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01

4

Label Identifier: VOL1  
Volume Identifier: CALS01  
Volume Accessibility:  
Owner Identifier:  
Label Standard Version: 4

HDR1D001 CALS0100010001000000 93126 00000 000000

Label Identifier: HDR1  
File Identifier: D001  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0001  
Generation Number: 0000  
Generation Version Number: 00  
Creation Date: 93126  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000000  
Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D001 CALS0100010001000000 93126 00000 000001

```
Label Identifier: EOF1
File Identifier: D001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0000
Generation Version Number: 00
Creation Date: 93126
Expiration Date: 00000
File Accessibility:
Block Count: 000001
Implementation Identifier:
```

EOF2D0204800260 00

```
Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00
```

\*\*\*\*\* Tape Mark \*\*\*\*\*

HDRID001C001 CALS0100010002000000 93126 00000 000000

```
Label Identifier: HDR1
File Identifier: D001C001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0000
Generation Version Number: 00
Creation Date: 93126
Expiration Date: 00000
File Accessibility:
Block Count: 000000
```

---

Implementation Identifier:

HDR2F00800000080

00

Label Identifier: HDR2  
Recording Format: F  
Block Length: 00800  
Record Length: 00080  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 800 Bytes.

Number of data blocks read = 39.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D001C001

CALS0100010002000000 93126 00000 000039

Label Identifier: EOF1  
File Identifier: D001C001  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0002  
Generation Number: 0000  
Generation Version Number: 00  
Creation Date: 93126  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000039  
Implementation Identifier:

EOF2F00800000080

00

Label Identifier: EOF2  
Recording Format: F  
Block Length: 00800  
Record Length: 00080  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

\*\*\*\*\* Tape Mark \*\*\*\*\*

HDR1D001T043            CALS0100010044000000 93126 00000 000000

Label Identifier: HDR1  
File Identifier: D001T043  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0044  
Generation Number: 0000  
Generation Version Number: 00  
Creation Date: 93126  
Expiration Date: 00000  
File Accessibility:  
Block Count: 000000  
Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

Actual Block Size Found = 2048 Bytes.

\*\*\* WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.

Number of data blocks read = 128.

\*\*\*\*\* Tape Mark \*\*\*\*\*

EOF1D001T043            CALS0100010044000000 93126 00000 000128

Label Identifier: EOF1  
File Identifier: D001T043  
File Set Identifier: CALS01  
File Section Number: 0001  
File Sequence Number: 0044  
Generation Number: 0000  
Generation Version Number: 00  
Creation Date: 93126  
Expiration Date: 00000

---

File Accessibility:  
Block Count: 000128  
Implementation Identifier:

EOF2D0204800260

00

Label Identifier: EOF2  
Recording Format: D  
Block Length: 02048  
Record Length: 00260  
Offset Length: 00

\*\*\*\*\* Tape Mark \*\*\*\*\*

\*\*\*\*\* Tape Mark \*\*\*\*\*

##### End of Volume CALS01 #####

##### End Of Tape File Set #####

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 1 warning(s),  
and 0 note(s).

## 9.3 Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 9 (O)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Thu May 6 14:56:03 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set001

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Magnavox Electronic Systems Co 1313 Production Rd. Ft. Wayne IN 46808 VAX/VM  
Version V5.5-2 running AFCTN Tapetool Software Version 1.2; Release 8

srcdocid: MX-62-122B

srcrelid: NONE

chglvl: ORIGINAL

dteisu: 19911201

dstsys: ATOS, Warner Robins ALC/LZDA Robins AFB GA 31098 Attn: Mike Green

dstdocid: TO 49B3-58-1

dstrelid: NONE

dtetm: 19930506

dlvacc: CONTRACT F19628-84-C-0084 CLIN 0084 CDRL 58-016

filcnt: C42,T1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Technical Publication

doctl: OPERATION AND MAINTENANCE INSTRUCTIONS WITH ILLUSTRATED PARTS BREAKDOWNFOR  
AN/TRC-187A

Found file: D001C001

Extracting CGM Header Records...

Evaluating CGM Header Records...

srcdocid: MX-62-122B

dstdocid: TO 49B3-58-1

txtfilid: W

figid: 1-1.1

srcgph: cgm1

doccls: UNCLASSIFIED

notes: 1st of 4 graphic files to make up figure 1-1.

Saving CGM Header File: D001C001\_HDR  
Saving CGM Data File: D001C001\_CGM

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

Found file: D001C042  
Extracting CGM Header Records...  
Evaluating CGM Header Records...

srcdocid: MX-62-122B  
dstdocid: TO 49B3-58-1  
txtfilid: W  
figid: FO-1.S2  
srcgph: CGM42  
doccls: UNCLASSIFIED  
notes: FOLDOUT PAGE, SHEET 2 OF 2

Saving CGM Header File: D001C042\_HDR  
Saving CGM Data File: D001C042\_CGM

Found file: D001T043  
Extracting Text Header Records...  
Evaluating Text Header Records...

srcdocid: MX-62-122B  
dstdocid: TO 49B3-58-1  
txtfilid: W  
doccls: UNCLASSIFIED  
notes: ASCII Text file with ATOS page delimiters for TO49B3-58-1.

Saving Text Header File: D001T043\_HDR  
Saving Text Data File: D001T043\_TXT

Evaluating numbering scheme...  
No errors were encountered during numbering scheme evaluation.  
Numbering scheme evaluation complete.

Checking file count...  
No errors were encountered during file count verification.  
File Count verification complete.

No errors were encountered in Document D001.  
No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

---

## 10. Appendix B - Detailed CGM Analysis

### 10.1 File D001C024

#### 10.1.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 05/07/93 Time: 08:47:11

Metafile Examined : i:\9344\c024.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

Bulletin 20027: Element Class/ID: 4/1 Offset: 182 octets Element No. 28  
Warning; a foreground color has been defined and referenced by a primitive,  
while the background color has not been defined.

Error 1002: Element Class/ID: 3/114 Offset: 81920 octets Element No. 18814  
Unrecognized element encountered; these opcodes are reserved for use in  
future versions of the standard.

===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6501: Element Class/ID: 1/2 Offset: 20 octets Element No. 3  
The METAFILE DESCRIPTION string is invalid; it lacks the phrase  
"MIL-D-28003/BASIC-1" required by the Profile.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 05/07/93 Time: 08:47:28

Name of CGM under test: i:\9344\c024.cgm

---

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "Metafile.Dat"

METAFILE DESCRIPTION : "MEC Metafile V.1"

Picture 1 starts at octet offset 82; string contains: "PICTURE1"

Conformance Summary : This file is not a conforming CGM:

Consequently, it does not meet the  
CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
18976 Elements Tested  
84548 Octets Tested

|  |        |      |
|--|--------|------|
| 1 Illegal CGM Elements                   | 1000 - | 1999 |
| 0 Incorrect CGM Element Lengths          | 2000 - | 2999 |
| 0 CGM State Errors                       | 3000 - | 3499 |
| 0 Required CGM Elements Missing or Wrong | 4000 - | 4499 |
| 0 CGM Parameter Values Out of Range      | 6000 - | 6499 |
| 0 CGM Structure Errors                   | 7000 - | 7499 |
| 1 *** CGM Errors Found (total)           | ***    |      |

|   |        |      |
|---|--------|------|
| 0 Profile State Errors                  | 3500 - | 3999 |
| 0 Illegal Profile Elements              | 4500 - | 4999 |
| 1 Profile Parameter Values Out of Range | 6500 - | 6999 |
| 0 Profile Data Limits Exceeded          | 8500 - | 8999 |
| 0 Other Profile Constraints Violated    | 9500 - | 9999 |
| 1 *** Profile Violations Found (total)  | ***    |      |

|                               |         |       |
|-------------------------------|---------|-------|
| 1 Warnings (Advisory Remarks) | 20000 - | 20999 |
|-------------------------------|---------|-------|

3 distinct errors and warnings were reported.

===== End of Conformance Report =====

## 10.1.2 validcgm Log

Analysis for file c024.cgm using table table

MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1

(3, 20) (1, 2, 18) Metafile Description "MEC Metafile V.1"

(0, 1) occurred 1 time

(0, 2) occurred 1 time

(0, 3) occurred 1 time

(0, 4) occurred 1 time

(0, 5) occurred 1 time

(1, 1) occurred 1 time

(1, 2) occurred 1 time

(1, 3) occurred 1 time

(1, 4) occurred 1 time

(1, 5) occurred 1 time

(1, 7) occurred 1 time

(1, 10) occurred 1 time

(1, 11) occurred 1 time

(2, 1) occurred 1 time

(2, 2) occurred 1 time

(2, 3) occurred 1 time

(2, 5) occurred 1 time

(2, 6) occurred 1 time

(2, 7) never occurred, required by standard B

(4, 1) occurred 4685 times

(4, 7) occurred 314 times

(5, 2) occurred 1 time

(5, 3) occurred 2 times

(5, 4) occurred 1 time

(5, 14) occurred 1 time

(5, 15) occurred 1 time

(5, 22) occurred 2 times

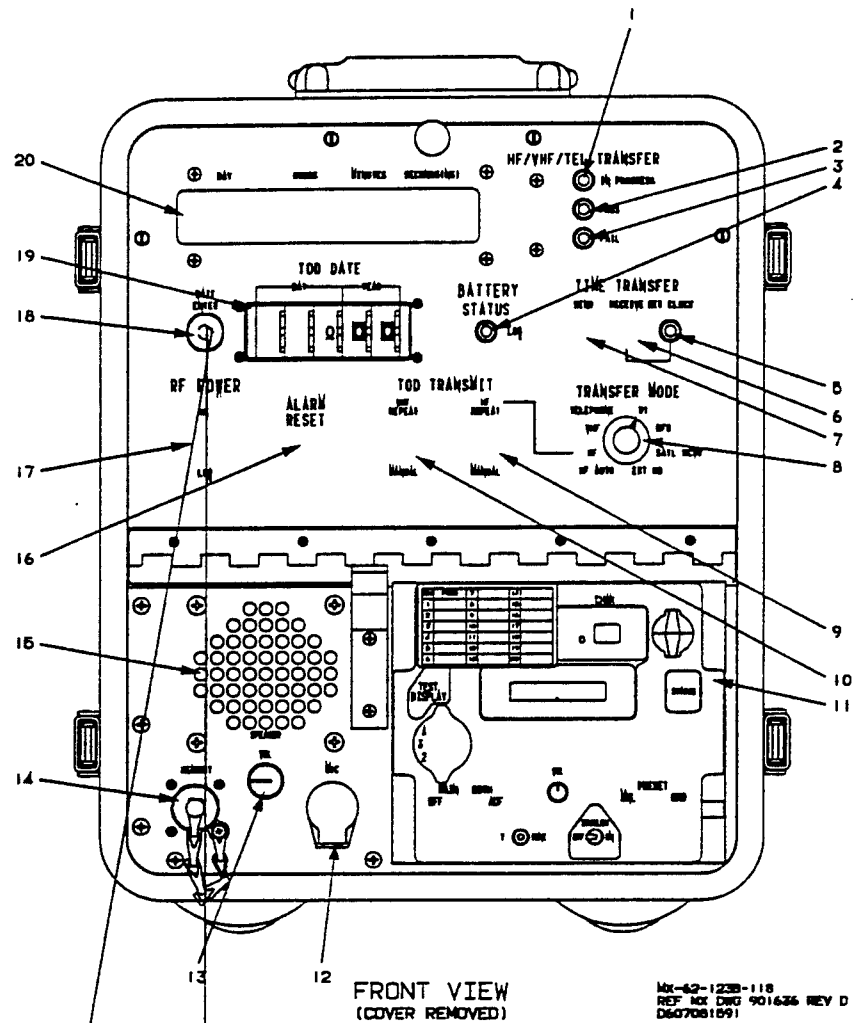
(5, 27) occurred 1 time

(5, 28) occurred 2 times

(5, 29) occurred 1 time

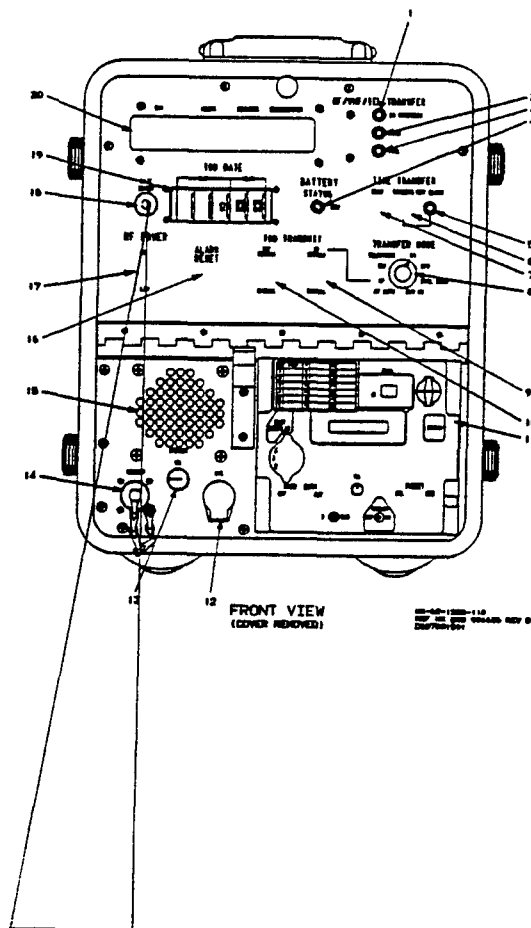
(5, 30) occurred 1 time

### 10.1.3 Output Cadleaf





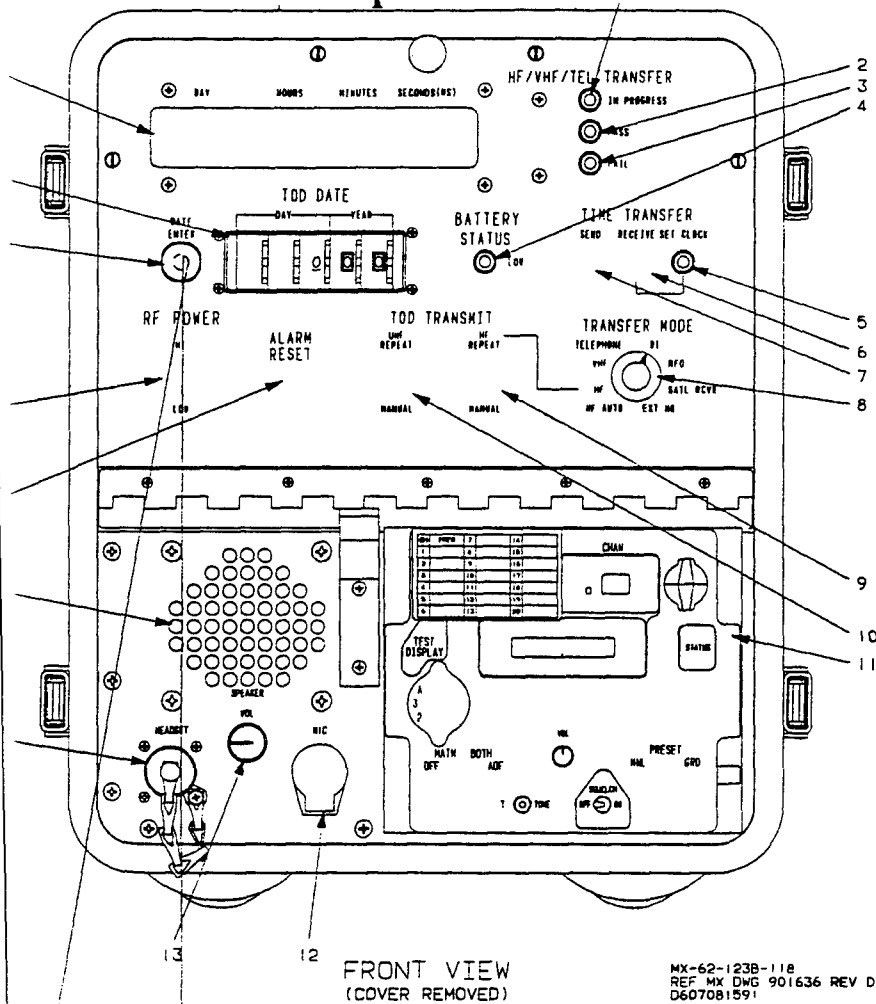
## 10.1.5 Output Harvard Graphics



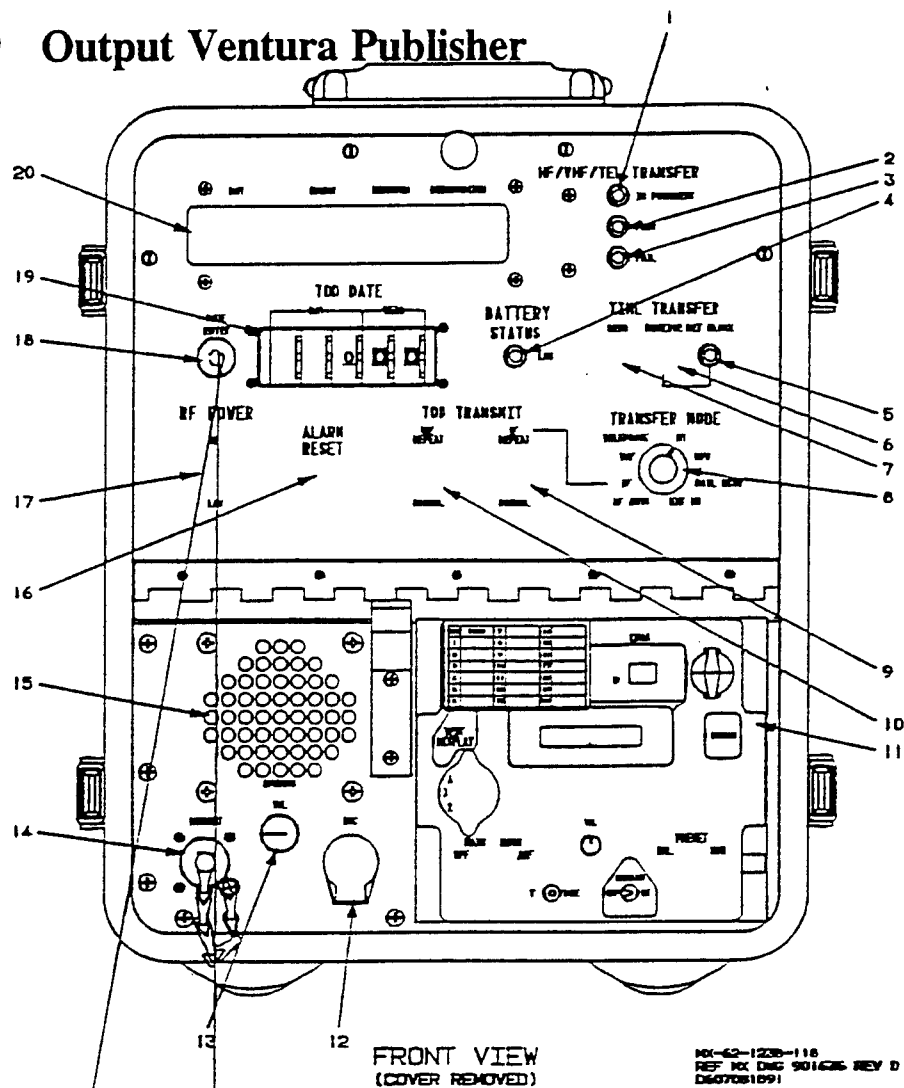
[illegible]

[illegible]

## 10.1.8 Output IslandDraw



## 10.1.9 Output Ventura Publisher



MX-62-1238-118  
REF MX DMC 901426 REV D  
0607081091

## 10.2 File D001C034

### 10.2.1 Parser Log MetaCheck

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 05/06/93 Time: 15:08:58

Metafile Examined : i:\9344\c034.cgm

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

===== Trace Report =====

Tracing not selected.

===== CGM Conformance Violation Report =====

Bulletin 20027: Element Class/ID: 4/1 Offset: 182 octets Element No. 28  
Warning; a foreground color has been defined and referenced by a primitive,  
while the background color has not been defined.

===== CALS CGM Profile (MIL-D-28003) Report =====

Error 6501: Element Class/ID: 1/2 Offset: 20 octets Element No. 3  
The METAFILE DESCRIPTION string is invalid; it lacks the phrase  
"MIL-D-28003/BASIC-1" required by the Profile.

===== Conformance Summary Report =====

MetaCheck Version 2.05 -- CGM/MIL-D-28003 Conformance Analyzer  
Copyright 1988-91 CGM Technology Software  
Execution Date: 05/06/93 Time: 15:09:14

Name of CGM under test: i:\9344\c034.cgm

Encoding : Binary

Pictures Examined : All

Elements Examined : All

Bytes Examined : All

BEGIN METAFILE string : "Metafile.Dat"

METAFILE DESCRIPTION : "MEC Metafile V.1"

---

Picture 1 starts at octet offset 82; string contains: "PICTURE1"

Conformance Summary : This file conforms to the CGM specification.

However, this file does not satisfy  
the CALS CGM Profile (MIL-D-28003).

Summary of Testing Performed and Errors Found:

1 Pictures Tested  
6004 Elements Tested  
89556 Octets Tested

|  |         |       |
|--|---------|-------|
| 0 Illegal CGM Elements                     | 1000 -  | 1999  |
| 0 Incorrect CGM Element Lengths            | 2000 -  | 2999  |
| 0 CGM State Errors                         | 3000 -  | 3499  |
| 0 Required CGM Elements Missing or Wrong   | 4000 -  | 4499  |
| 0 CGM Parameter Values Out of Range        | 6000 -  | 6499  |
| 0 CGM Structure Errors                     | 7000 -  | 7499  |
| 0 *** CGM Errors Found (total) ***         |         |       |
| 0 Profile State Errors                     | 3500 -  | 3999  |
| 0 Illegal Profile Elements                 | 4500 -  | 4999  |
| 1 Profile Parameter Values Out of Range    | 6500 -  | 6999  |
| 0 Profile Data Limits Exceeded             | 8500 -  | 8999  |
| 0 Other Profile Constraints Violated       | 9500 -  | 9999  |
| 1 *** Profile Violations Found (total) *** |         |       |
| 1 Warnings (Advisory Remarks)              | 20000 - | 20999 |

2 distinct errors and warnings were reported.

===== End of Conformance Report =====

## 10.2.2 validcgm Log

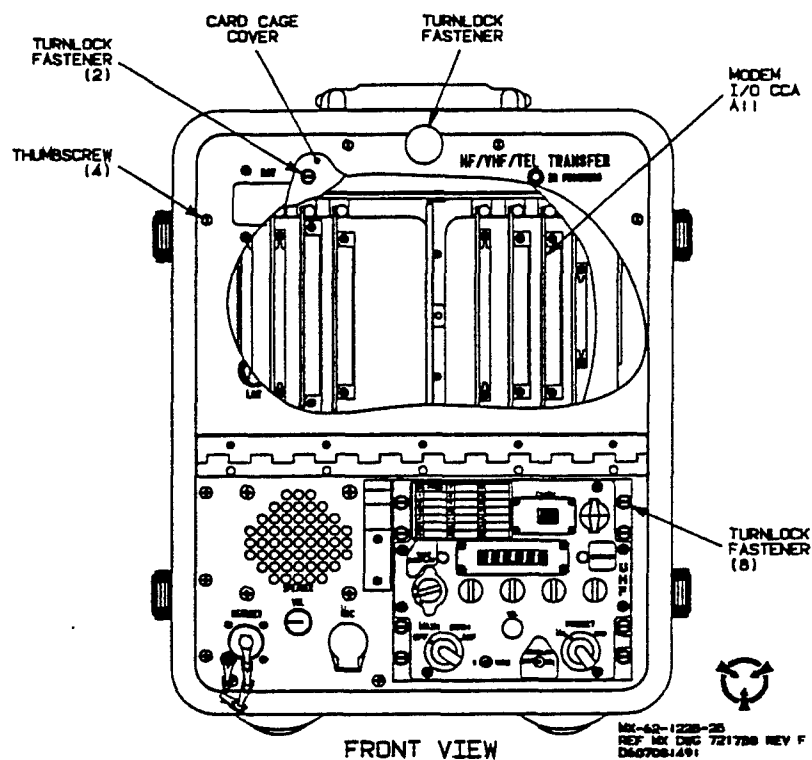
Analysis for file c034.cgm using table table

MILSPEC 28003 error: descriptor doesn't contain MIL-D-28003/BASIC-1

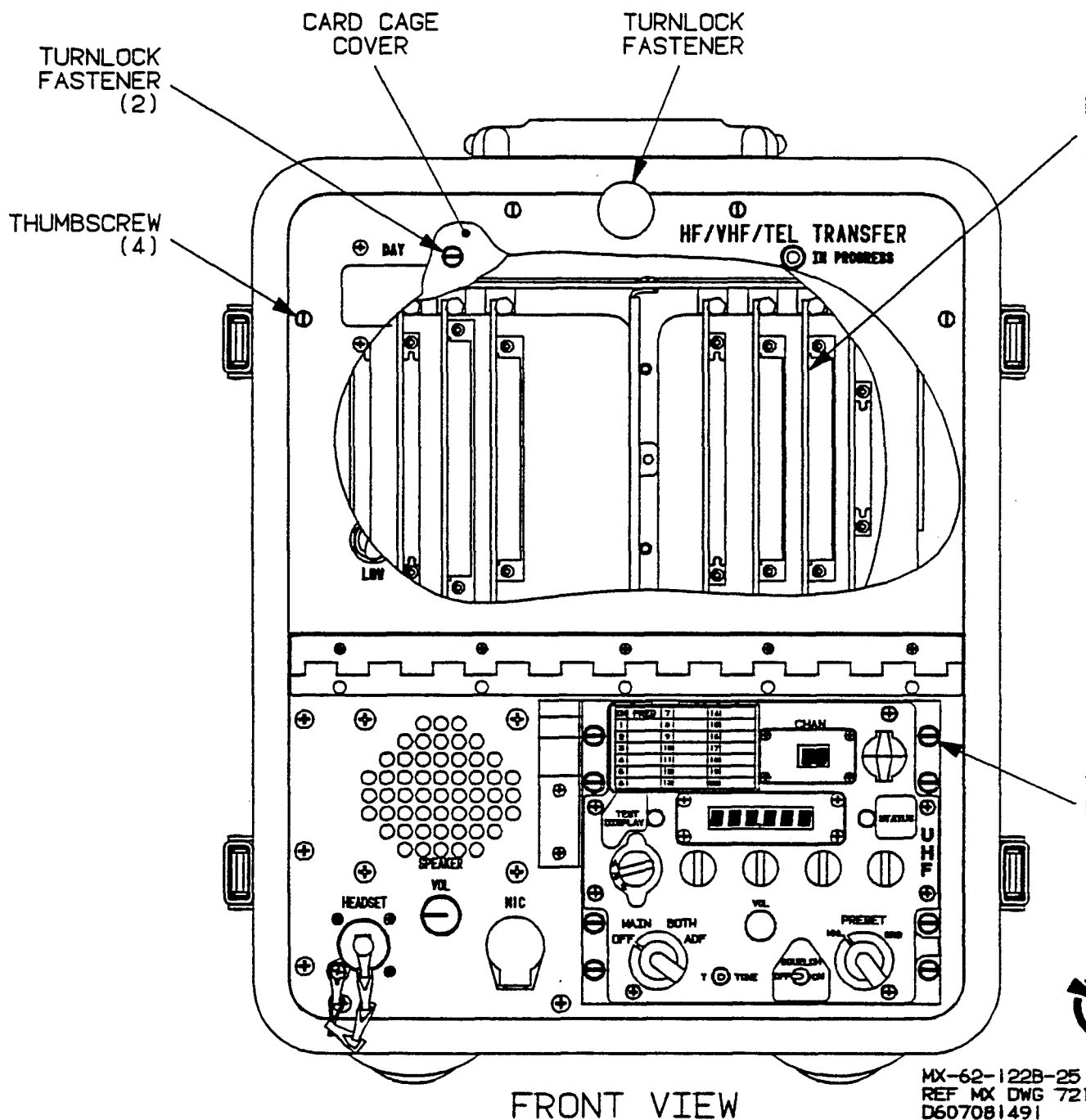
(3, 20) (1, 2, 18) Metafile Description "MEC Metafile V.1"

(0, 1) occurred 1 time  
(0, 2) occurred 1 time  
(0, 3) occurred 1 time  
(0, 4) occurred 1 time  
(0, 5) occurred 1 time  
(1, 1) occurred 1 time  
(1, 2) occurred 1 time  
(1, 3) occurred 1 time  
(1, 4) occurred 1 time  
(1, 5) occurred 1 time  
(1, 7) occurred 1 time  
(1, 10) occurred 1 time  
(1, 11) occurred 1 time  
(2, 1) occurred 1 time  
(2, 2) occurred 1 time  
(2, 3) occurred 1 time  
(2, 5) occurred 1 time  
(2, 6) occurred 1 time  
(2, 7) never occurred, required by standard B  
(4, 1) occurred 5646 times  
(4, 7) occurred 327 times  
(5, 2) occurred 1 time  
(5, 3) occurred 2 times  
(5, 4) occurred 1 time  
(5, 14) occurred 1 time  
(5, 15) occurred 1 time  
(5, 22) occurred 2 times  
(5, 27) occurred 1 time  
(5, 28) occurred 2 times  
(5, 29) occurred 1 time  
(5, 30) occurred 1 time

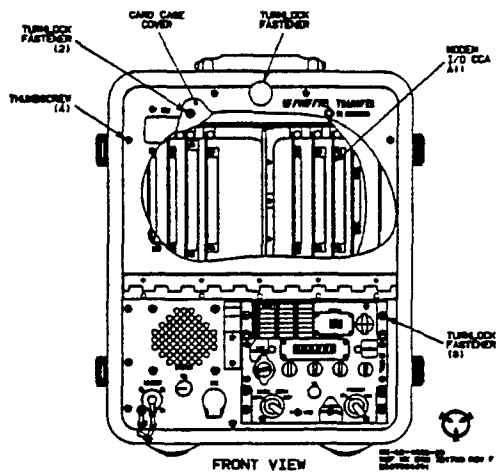
### 10.2.3 Output Cadleaf



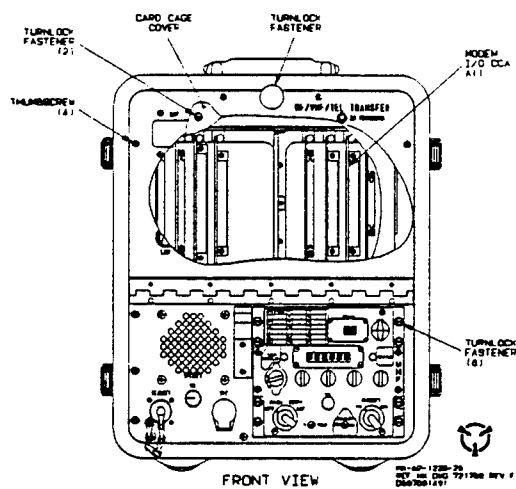
## 10.2.4 Output Designer



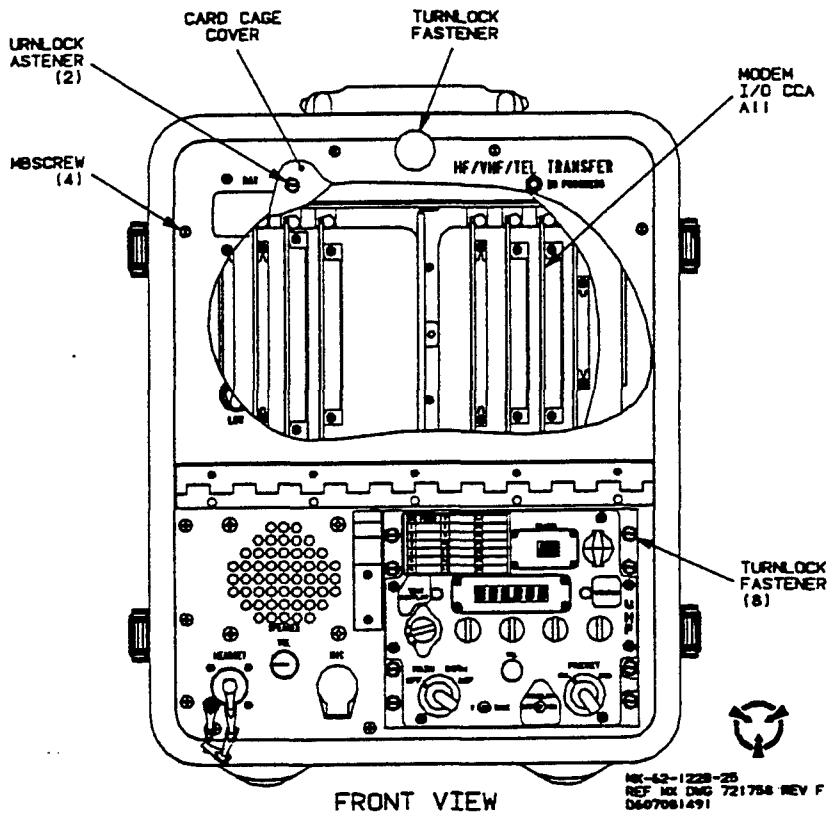
## 10.2.5 Output Harvard Graphics



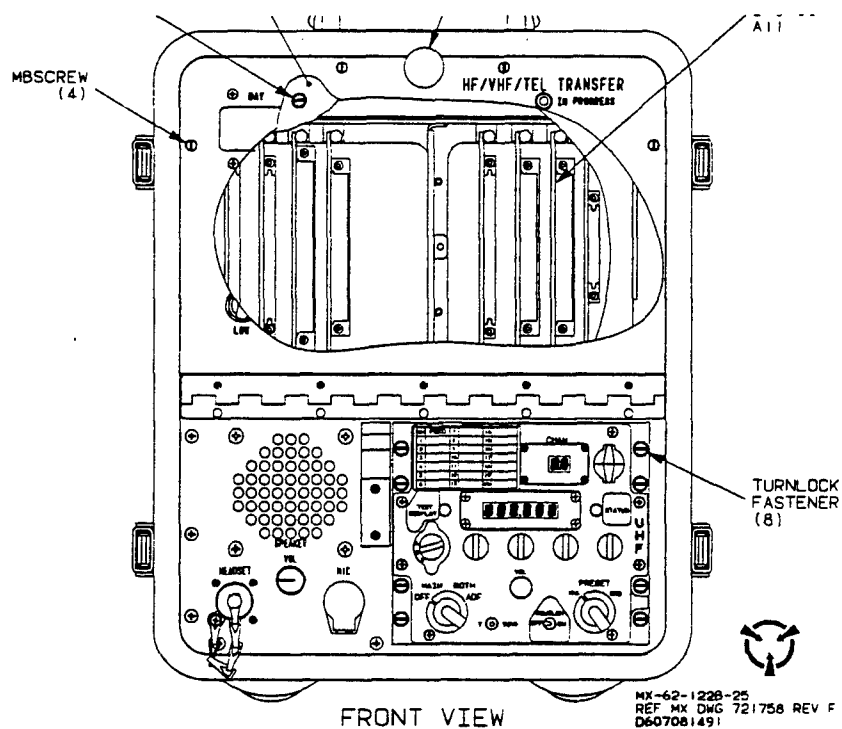
## 10.2.6 Output HiJaak for Windows



## 10.2.7 Output cgm2draw/IslandDraw



## 10.2.8 Output Island Draw



## 10.2.9 Output Ventura Publisher

